



Grade Level: K - 4

Subject(s):

History, Science

Prep Time:

10 minutes

Duration:

One class period

Materials Category:

Classroom

Objective

To compare western pioneer life to space pioneer life and to determine items that are important for survival.

National Education Standards

Science

Science in Personal and Social Perspectives:

Characteristics and changes in populations

Types of resources

Science and technology in local challenges

MATERIALS

• Student Pages

Pre-lesson Instructions

- Duplicate the Student Pages.
- Gather books about pioneer life for classroom display.

Background Information

Pioneers are people who lead the way into an unknown land. Over 100 years ago, these pioneers were exploring unknown lands on Earth. Today's pioneers are exploring the unknown regions of space. Although these pioneers are separated by time, they have many of the same constraints.

When pioneers left their homes to explore new lands, they typically traveled in covered wagons. These prairie schooners were very small compared to a house, so only essential items could be taken. After the pioneers left their homes, they rarely saw their friends and family again. Communication was difficult, so many of them did not hear from family and friends ever again.

Astronauts on the Space Shuttle and the International Space Station face some of the same problems. There is limited room, so they learn to do without many of the items they are accustomed to having on Earth. They do without their families, but they can make phone calls and send e-mails, as well as take photos with them. They do without a soft comfy bed, but they do their best with sleeping bags and weird-shaped beds. They do without gourmet meals, showers, trees, grass and flowers, but they get a great view of the Earth and the immensity of space. They do without their satellite TV and movie theaters, but they compensate with closed circuit TV and lots of videos. They do without the interaction of friends and co-workers back on Earth, and instead bond closely with their crewmates.

In space, astronauts have access to e-mail, but sometimes, nothing substitutes for hearing a familiar voice. On the Space Shuttle, astronauts are permitted a 10-minute phone call home on each mission, with a special air-to-ground system that has a video link. On the International Space Station, they have a type of telephone link which they use to call home without having to go through Mission Control. One astronaut even surprised her family once by unexpectedly calling them, and it took a while to convince them that it really was her, calling from space!

RETURN TO FLIGHT



Doing Without

TEACHER SECTION



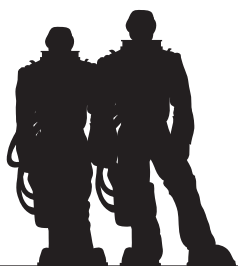
Guidelines

1. Spread a twin flat sheet on the floor. Tell students that this is the basic area of a covered wagon. Tell students that during the pioneer days, families with 10 or more people might live in this area for weeks, but they could go outside and walk around. Ask students to discuss problems that might occur due to the size of the wagon. Currently (May 2005), the International Space Station is roughly the size of a three-bedroom house (170 square meters, or 1,800 square feet), and space is cramped because so much equipment has to be on board.
2. Place students into groups of two.
3. Distribute the Student Pages. Read the directions orally.
4. Have students complete their sheets as directed.

Discussion / Wrap-up

- Share results of project. Allow students to explain choices that were made.

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Doing Without

STUDENT SECTION



Below is a list of items pioneers might have placed in their covered wagons for the long trip west. Some of these items are necessities and some are luxuries. Choose the 10 items from the chart you think are the most important and write them in the empty boxes.

Boots	Dolls	Blanket	Kettle
Cooking utensils	Tin tableware	Musical instrument	Family Album
Candle mold	Plow	Rifle	Ladle
Skillet	Tent	Bacon	Schoolbooks
Poles	Campstool	Spyglass	Stakes
Flour	Wool coat	Axe	Rocking chair
Lanterns	Gunpowder	Coffee pot	Bullet mold
Fine linens	Pillow	Bed	Grandfather clock

Choose two luxuries from the list. Write them in the boxes below.

Why did you choose the 10 items as necessities?

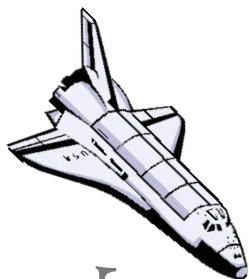
Why did you choose the two items as luxuries?



RETURN TO FLIGHT

Doing Without

STUDENT SECTION



RETURN TO FLIGHT



Now, choose 10 items you would take on the Space Shuttle. You may use words from the chart or pick your own! Remember that space is limited on the Shuttle, so you can't take large items.

Shoes	Dolls	Blanket	Scissors
E-mail addresses	Food packs	Musical instrument	Family Album
Cookies	Schoolbooks	Basketball	Terry bear
Pillow	Tent	Pet	Velcro
Pork	Clothes	Game	Book
Video Game	CDs/player	Movie	Telephone

Why did you choose these items?

